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| 10/529,260 | 03/25/2005 | Mitsushi Tada | 052348 | 4536 |

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WASHINGTON, DC 20036

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| EXAMINER |
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TOSCANO, ALICIA

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| ART UNIT | PAPER NUMBER |
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1796

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| MAIL DATE | DELIVERY MODE |
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01/24/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/529,260 | Applicant(s) TADA, MITSUSHI | |
| | Examiner Alicia M. Toscano | Art Unit 1796 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>3/25/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 9/26/02. It is noted, however, that applicant has not filed a certified copy of the 2002-280578 application as required by 35 U.S.C. 119(b).
2. Applicant has only submitted the first page of the Japanese document.
3. Examiner notes that Zhao, used below, is a 102(a) date based on the current effective filing date of 9/24/03 (filing date of PCT), and will/would be a 102(e) date if priority was perfected.
4. Applicant is advised of possible benefits under 35 U.S.C. 119(a)-(d), wherein an application for patent filed in the United States may be entitled to the benefit of the filing date of a prior application filed in a foreign country.
5. Translation of the foreign document is required to perfect priority.

Claim Rejections - 35 USC § 102

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 2, 4, 5, 6, 7 and 8 are rejected under 35 U.S.C. 102(a) as being anticipated by Zhao (US 2002/0176650).

Zhao discloses compositions comprising polynorbornene (Table I) and less than about 0.1 wt% carbon nanotubes (abstract). The composition requirements of Applicant's claims converts to a carbon nanotube range of 0.01-17 wt% (0.01/100.01 and 20/120 respectively), the above wt% thusly falls within said range. The nanotubes have a diameter of 0.7-2 nm and a length of 100-1,000 nm (or 0.1-1 micron) [0033], meeting the requirements of claims 1 and 2. Since the compositional requirements are met, and since norbornene polymers typically inherently possess a Tg greater than 60C (see US 5905129, Column 7 lines 40-47 for evidence), it is the Examiner's position that the polynorbornene of Zhao inherently meets the limitations of Claim 4. The composition is placed in a Petri dish, or a mold, and baked in order to form the final product [0044], as required by Claim 5. Since the molded article can hold any object which is placed on top of it, the Examiner finds the container requirements of claim 7 and 8 to be met. Since the compositional elements are met the Examiner finds the surface resistance to be inherent, as required by claim 6.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
7. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhao in view of Murakami (US 5905129).

Zhao includes elements as set forth above. Zhao does not disclose the use of a hydrogenated ring-opening polymer of a norbornene based monomer.

Murakami discloses ring opening polymer hydrogenation products from norbornene monomers (abstract). Said products have a low birefringence and are excellent in resistance to deterioration with grease and oils (Column 1 lines 57-60).

The selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945) and as such it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Zhao the use of the hydrogenation products taught by Murakami in order to produce a product with low birefringence and good resistance to grease and oil. The requirements of claim 3 are thusly met. The 100C Tg of the hydrogenation product of Murakami (Column 7 lines 40-47) meets the limitations of claim 4.

8. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami (US 5905129) in view of Dupire (US 6331265).

Murakami discloses hydrogenated norbornene polymers (abstract) with a Tg greater than 100C (Column 7 lines 40-47). The polymer is further molded into containers which are inherently capable of holding substrates, and medical equipment such as test tubes, which are inherently capable of holding biological samples (Column 10 lines 5-55). Murakami does not disclose the inclusion of carbon nanotubes, as further required by the claims.

Dupire discloses reinforced polymers. Dupire discloses that it is well known to add carbon nanotubes to plastics in order to prevent pure brittle fracture at low strain (Column 1 lines 50-51), improve mechanical properties (Column 1 line 12) and increase conductivity (Column 1 lines 42-43). Dupire further teaches the general use of less than 50 wt% of nanotubes in a polymer composition, preferably less than 20 wt%, depending on the end use of the composition.

The selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945), as such it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Murakami the use of up to 50 wt% carbon nanotubes in a polymer composition, as taught by Dupire, in order to improve, and/or impart, the above properties to a resin, resulting in a resin with superior fracture, mechanical and conductivity properties.

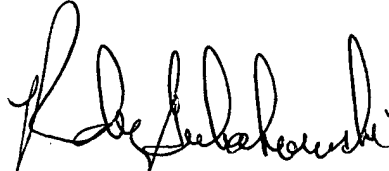
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Toscano whose telephone number is 571-272-2451. The examiner can normally be reached on Monday to Friday 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMT


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